

## § 169.609

(b) Non-integral keel coolers must be suitably protected against damage from debris and grounding by recessing the unit into the hull or by the placement of protective guards.

(c) Each non-integral keel cooler hull penetration must be equipped with a shutoff valve.

[CGD 83-005, 51 FR 896, Jan. 9, 1986, as amended by USCG-2000-7790, 65 FR 58464, Sept. 29, 2000]

## § 169.609 Exhaust systems.

Engine exhaust installations and associated cooling systems must be built in accordance with the requirements of American Boat and Yacht Council, Inc. Standard P-1, "Safe Installation of Exhaust Systems for Propulsion and Auxiliary Machinery" and the following additional requirements:

(a) All exhaust installations with pressures in excess of 15 pounds per square inch gage or employing runs passing through living or working spaces must meet the material specifications of part 56 of Title 46, Code of Federal Regulations.

(b) Horizontal dry exhaust pipes are permitted if they do not pass through living or berthing spaces, terminate above the deepest load waterline, are arranged to prevent entry of cold water from rough seas, and are constructed of corrosion resistant material at the hull penetration.

(c) When the exhaust cooling system is separate from the engine cooling system, a suitable warning device must be provided to indicate a failure of water flow in the exhaust cooling system.

[CGD 83-005, 51 FR 896, Jan. 9, 1986, as amended by USCG-2014-0688, 79 FR 58287, Sept. 29, 2014]

## § 169.611 Carburetors.

(a) This section applies to all vessels having gasoline engines.

(b) Each carburetor other than a down-draft type, must be equipped with integral or externally fitted drip collectors of adequate capacity and arranged so as to permit ready removal of fuel leakage. Externally fitted drip collectors must be covered with flame screens.

(c) All gasoline engines must be equipped with an acceptable means of backfire flame control. Installations of

## 46 CFR Ch. I (10-1-14 Edition)

backfire flame arresters bearing basic Approval Nos. 162.015 or 162.041 or engine air and fuel induction systems bearing basic Approval Nos. 162.015 or 165.042 may be continued in use as long as they are serviceable and in good condition. New installations or replacements must meet the applicable requirements of part 58, subpart 58.10 (Internal Combustion Engine Installations) of this chapter.

[CGD 83-005, 51 FR 896, Jan. 9, 1986, as amended by CGD 88-032, 56 FR 35827, July 29, 1991]

### FUEL SYSTEMS

## § 169.613 Gasoline fuel systems.

(a) Except as provided in paragraph (b) each gasoline fuel system must meet the requirements of § 56.50-70 of this chapter

(b) Each vessel of 65 feet and under must meet the requirements of §§ 182.15-25, 182.15-30, 182.15-35 and 182.15-40 of this chapter.

## § 169.615 Diesel fuel systems.

(a) Except as provided in paragraph (b) each diesel fuel system must meet the requirements of § 56.50-75 of this chapter.

(b) Each vessel of 65 feet and under must meet the requirements of §§ 182.20-22, 182.20-25, 182.20-30, 182.20-35 and 182.20-40 of this chapter.

### STEERING SYSTEMS

## § 169.618 General.

(a) Each vessel must have an effective steering system.

(b) The steering system must be designed to withstand all anticipated loading while under sail, including shocks to the rudder. Additionally, the steering system on vessels with an auxiliary means of propulsion must not be susceptible to damage or jamming at the vessel's maximum astern speed.

(c) The main steering gear must be capable of moving the rudder from hard-over to hard-over at an average rate of not less than  $2\frac{1}{2}^\circ$  per second with the vessel at design service speed (ahead).